

## WHAT IS CLAIMED IS:

1. Form B montelukast sodium characterized as having an x-ray powder diffraction pattern peak position substantially as shown:

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2 $\theta$	d spacing (Å)	Intensity
5.4	16.4	s
5.7	15.6	vs
9.5	9.3	m
10.4	8.5	m
17.1	5.2	s
18.7	4.73	s
21.6	4.11	s

2. A pharmaceutical composition comprising a therapeutically effective amount of montelukast sodium Form B of Claim 1 and a pharmaceutically acceptable carrier.

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3. A method for the treatment of asthma or allergic rhinitis which comprises administering to a mammal in need of such treatment a therapeutically effective amount of montelukast sodium Form B of Claim 1.

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4. A method for the treatment of respiratory symptoms associated with viral bronchiolitis which comprises administering to a mammal in need of such treatment a therapeutically effective amount of montelukast sodium Form B of Claim 1.

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5. A method for the treatment of chronic urticaria which comprises administering to a mammal in need of such treatment a therapeutically effective amount of montelukast sodium Form B of Claim 1.

6. A method for the treatment of conjunctivitis which comprises administering to a mammal in need of such treatment a therapeutically effective amount of montelukast sodium Form B of Claim 1.
- 5 7. A method for the treatment of sinusitis which comprises administering to a mammal in need of such treatment a therapeutically effective amount of montelukast sodium Form B of Claim 1.
8. Montelukast sodium:acetonitrile monosolvate.
- 10 9. Montelukast sodium:acetonitrile monosolvate characterized by having  $^{13}\text{C}$  solid-state CPMAS NMR chemical shifts in ppm at 72 (sharp triplet), 74 (sharp triplet), 77 (sharp triplet), 179 (sharp doublet), and 182 (sharp doublet).
- 15 10. Montelukast sodium:acetonitrile monosolvate of Claim 8 further characterized by having X-ray powder diffraction peaks substantially as shown:

2 $\theta$	d spacing (Å)	Intensity
4.30	20.5	vs
5.9	14.9	s
6.2	14.3	s
6.8	13.0	w
7.3	12.0	w
10.5	8.4	m
11.0	8.0	w
12.7	7.0	m
16.2	5.5	s
18.1	4.90	w
18.7	4.74	w
21.6	4.12	w
23.4	3.80	w

23.9	3.72	w
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11. Montelukast sodium:acetonitrile hemisolvate.

12. Montelukast sodium:acetonitrile hemisolvate of Claim 10  
5 characterized by having  $^{13}\text{C}$  solid-state CPMAS NMR chemical shifts in ppm at 27 (well resolved) and 55 (well resolved), referenced by setting the carbonyl resonance of glycine to 176.08.

13. Montelukast sodium:acetonitrile hemisolvate of Claim 10  
10 characterized by having X-ray powder diffraction peaks substantially as shown:

2 $\theta$	d spacing (Å)	Intensity
4.57	19.3	s
5.3	16.7	s
5.6	15.7	vs
6.5	13.6	m
9.4	9.4	m
10.3	8.6	w
11.6	7.6	m
14.1	6.3	w
14.5	6.1	m
15.1	5.8	w
16.2	5.5	m
17.0	5.2	m
18.5	4.79	s
20.8	4.26	m
21.3	4.17	s

14. A method for the preparation of montelukast sodium Form A substantially free of amorphous montelukast sodium comprising: 1) collecting

montelukast sodium:acetonitrile monosolvate; and 2) removing acetonitrile from the collected monosolvate.

15. A method for the preparation of montelukast sodium Form A  
5 substantially free of amorphous montelukast sodium comprising: 1) contacting  
amorphous montelukast sodium or a mixture of amorphous montelukast sodium and  
montelukast sodium Form A with acetonitrile to form montelukast  
sodium:acetonitrile monosolvate; 2) collecting said monosolvate; and 3) removing  
acetonitrile from the collected monosolvate.

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16. The method of Claim 14 wherein a mixture of amorphous  
montelukast sodium and montelukast sodium Form A is used in step 1).